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EXAMINER

NGUYEN, TOAN D

ART UNIT PAPER NUMBER

2665

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/746,486

Applicant(s)

SACHS ET AL

Examiner

Toan D Nguyen

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claim 1, 6, 8-11, 16, 18-21 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pauls (US 5,983,382) in view of Uerendai et al. (US 6,629,285).

For claim 1, Pauls discloses automatic retransmission query (ARQ) with inner code for generating multiple provisional decodings of a data packet, comprising:

applying a forward error correction code to a group of data packets to create a coded group of packets by supplementing a set of parity packets to the group of data packets (figure 1, col. 4 lines 60-65);

transmitting the data packets, and transmitting a set of corresponding parity packets after the data packets have been sent (col. 4 lines 60-65).

However, Pauls does not disclose:

in response to receiving the acknowledgement, ceasing to send additional parity packets; and

in response to not receiving the acknowledgment, continuing to transmit the parity packets. In an analogous art, Gerendai et al. disclose:

in response to receiving the acknowledgement, ceasing to send additional parity packets (col. 1 lines 33-34); and

in response to not receiving the acknowledgment, continuing to transmit the parity packets (figure 4, col. 4 line 66 to col. 5 line 3).

One skilled in the art would have recognized in response to receiving the acknowledgement, ceasing to send additional parity packets to use the teachings of Gerendai et al. in the system of Pauls. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use in the response to receiving the acknowledgement, ceasing to send additional parity packets as taught by Gerendai et al. in Pauls' system with the motivation being to provide Class 2 for reliable two-way request-response transactions (col. 1 lines 22-23),

For claims 6 and 16, Pauls discloses wherein the applying a forward error correction code includes applying a Reed-Solomon code to the data packets (col. 4 lines 60-65).

For claims 8, 18 and 27, Pauls discloses wherein transmitting the group of packets includes interleaving and transmitting a second and separate group of data packets (figure 3, col. 6 lines 52-54).

For claims 9 and 19, Pauls discloses wherein the receiver sends multiple acknowledgement signals for a group of packets (figure 4, col. 7 lines 11-16).

For claims 10 and 20, Pauls discloses further includes manipulating the number of parity packets in response to data included in the acknowledgement (col. 4 lines 61-65).

For claim 11, Pauls discloses automatic retransmission query (ARQ) with inner code for generating multiple provisional decodings of a data packet, comprising:

applying a forward error correction code to a group of data packets to create a coded group of packets by supplementing a set of parity packets to the group of data packets (figure 1, col. 4 lines 60-65);

transmitting the data packets, and transmitting a set of corresponding parity packets after the data packets have been sent (col. 4 lines 60-65).

However, Pauls does not disclose:

in response to receiving the acknowledgement, ceasing to send additional parity packets; and

in response to not receiving the acknowledgment, continuing to transmit the parity packets.

In an analogous art, Gerendai et al. disclose:

in response to receiving the acknowledgement, ceasing to send additional parity packets (col. 1 lines 33-34); and

in response to not receiving the acknowledgment, continuing to transmit the parity packets (figure 4, col. 4 line 66 to col. 5 line 3).

One skilled in the art would have recognized in response to receiving the acknowledgement, ceasing to send additional parity packets to use the teachings of Gerendai et al. in the system of Pauls. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use in the response to receiving the acknowledgement, ceasing to send additional parity packets as taught by Gerendai et al. in Pauls' system with the motivation being to provide Class 2 for reliable two-way request-response transactions (Col. 1 lines 22-23).

For claim 21, Pauls discloses automatic retransmission query ARQ with inner code for generating multiple provisional decodings of a data packet, comprising:

an encoder (figure 1, reference 12) to apply a forward error correction code to a group of data packets to create a coded group of packets by supplementing a set of parity packets to the group of data packets (col. 4 lines 31-32 and col. 4 lines 60-65);

a transmitter (figure 1, reference 10) to transmit the data packets to a receiver (figure 1, reference 30) over a network, and transmit a set of corresponding parity packets (col. 4 lines 60-61);

a receiver (figure 1, reference 30) to receive a positive acknowledgement signal (figure 4, reference step 106, col. 7 lines 14-16).

However, Pauls does not disclose wherein in response to receiving the acknowledgement, the transmitter ceases to send additional parity packets; and in response to not receiving the acknowledgment; continuing to transmit the parity packets. In an analogous art, Gerendai et al. disclose wherein in response to receiving the acknowledgement, ceasing to send additional parity packets (col. 1 lines 33-34); and in response to not receiving the acknowledgment, continuing to transmit the parity packets (figure 4, col. 4 line 66 to col. 5 line 3).

One skilled in the art would have recognized in response to receiving the acknowledgement, ceasing to send additional parity packets to use the teachings of Gerendai et al. in the system of Pauls. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use in the response to receiving the acknowledgement, ceasing to send additional parity packets as taught by Gerendai et al. in Pauls' system with the motivation being to provide Class 2 for reliable two-way request-response transactions (col. 1 lines 22-23).

4. Claims 2-3, 5, 7, 12-13, 15, 17, 22 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pauls (US 5,983,382) in view of Gerendai et al. (US 6,629,285) further in view of Luby (US 6,307,487).

For claims 2-3, 5 and 7, Pauls in view of Gerendai et al. does not disclose the claimed invention. In an analogous art, Luby discloses wherein the data packets include multi-media data packets, and the transmitting includes transmitting over a wireless network (figure 23, col. 8 line 64 to col. 9 line 5 and col. 28 lines 53-56 as set forth in claim 2); wherein transmitting the multi-media data packets includes multi-media

streaming over an Internet Protocol (IP) network (col. 3 lines 9-10 as set forth in claim 3); wherein the multi-media streaming includes suppressing physical layer acknowledgements via multicasting IP addresses (col. 1 lines 54-57 as set forth in claim 5); and wherein the applying a forward error correction code includes applying a Tornado code to the data packets (col. 3 line 60 as set forth in claim 7).

One skilled in the art would have recognized data packets include multi-media data packets to use the teachings of Luby in the system of Pauls. Therefore, it would have been obvious to one of ordinary skill in the art at the time invention, to use the data packets include multi-media data packets as taught by Luby in Pauls' system with the motivation being to use chain reaction coding, the application-specific parameters, such as the input symbol size (col. 9 lines 9-10).

For claims 12, 13, 15 and 17, the claims are directed to the same subject matter as in claims 2-3, 5 and 7. Therefore, they are subject to the same rejection.

For claims 22, 25 and 26, the claims are directed to the same subject matter as in claims 3, 5 and 7. Therefore, they are subject to the same rejection.

5. Claims 4, 14 and 23 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Pauls (US 5,983,382) in view of Gerendai et al. (US 6,629,285) and Luby (US 6,307,487) further in view of Brown et al. (US 6,366,622).

For claims 4, 14 and 23, Pauls in view of Gerendai et al. and Luby does not disclose the claimed invention. In an analogous art, Brown et al. disclose wherein the multi-media streaming includes streaming via IEEE 802.11 standard over a wireless network (col. 3 line 12, as set forth in claims 4, 14 and 23).

One skilled in the art would have recognized IEEE 802.11 standard over a wireless network to use the teachings of Brown et al. to the system of Pauls. Therefore, it would have been obvious to one of ordinary skill in the art at the time invention, to use the IEEE 802.11 standard.

Response to Arguments

6. Applicant's arguments filed October 18, 2004 have been fully considered but they are not persuasive.

The applicant argues with respect to claims 1, 11 and 21, that Gerendai et al. fails to teach the claimed limitation of response to receiving an acknowledgement, ceasing to send additional parity packet, and in response to not receiving the acknowledgment, continuing to transmit the parity packet. The examiner disagrees. Applicant's attention is directed to Gerendai et al. patent at col. 1 line 33-34 where Gerendai et al. clearly teach "The transaction ends when the sender receives the acknowledgement." (response to receiving an acknowledgement, ceasing to send additional parity packet means). Gerendai et al. teach at col. 4 line 66 to col. 5 line 3 (figure 4) " The receiver transmit to the air link 16 a negative acknowledgement message (NACK_1) listing data packet with PSN=N. The sender continues to send data packet with PSN=N+2 to the air link 16, which successfully transmits the data packet to the receiver." (in response to not receiving the acknowledgment, continuing to transmit the parity packet means).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan D Nguyen whose telephone number is 571-272-3153. The examiner can normally be reached on M-F (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2665

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Man U. Phan

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PRIMARY EXAMINER